MICHIGAN FARMER.

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC ECONOMY.

Volume III. Jackson, June, 1845. Number 3.

PUBLISHED MONTHLY,

BY H. HURLBUT,

EDITOR AND PROPRIETOR.

FIFTY CENTS A YEAR:

Five copies for Two Dollars—payable in advance.

[For particulars see last page.]

A garden calendar for each month was promised us by an experienced and skillful gardener. That for May, unfortunately was received too late for insertion. The following is the

Calendar for June.

Kitchen Garden.—Thin out and hoe early planted vegetables; transplant Cauliflower, Cabbage, Broccoli, Tomato, Peppers, and Egg plants, and make new sowings if necessary. Plant peas, beans, corn, squash, &c., for succession crops. Any time this month sow for winter use, beets, carrots, parsnips, oysters, in drills twelve inches apart. Between the drills, sow radish, lettuce, and peppergrass, which will be fit for use, and out of the way by the time the beets, &c., want the ground. Sow spinach, pie-plant, ruta baga, and turnip rooted cabbage, an excellent article for the table or for feeding stock. If not done last month, early in this plant pole beans, winter squashes, and pumpkins. Early sown celery should now be pricked out in rich soil, the plants five inches apart each way; water and shade for a few days. Prepare your trench for the plants to be set in the last of this or early next month. Egg plants and Peppers may yet be sown with good success. If your planting of melons and cucumbers have been destroyed by bugs, worms, or frost, plant again. For pickling, cucumbers may be planted any time this month. Put in a good supply of seed; allow the bugs their full share. From the fifteenth to the twenty-fifth make another planting of early Black Hawk corn; a superior article for boiling; which, with your former planting of early golden and sugar corn, will give a supply till October. Hoe your vegetables often, especially if the ground be dry. Keep a good lookout for bugs and worms. The most effectual way to destroy the former is to keep a hen with chickens in the garden: confine the hen, the chickens will pick the bugs. To destroy the worms take a candle in the evening and examine your vines; you will find them engaged in their work of destruction, and you may destroy them easily.—Make a ring around the hills with dry unleached ashes, an inch thick and two wide. The worms will not be inclined to crawl over the ashes.

Flower Garden.—Early this month finish planting dahlias. Those that have been forced in pots may now be put in the garden. *Water freely*, and tie to stakes. Sow any time this month biennial and perennial flower seeds in a seed bed. Transplant such annuals as were sown early last month. Make new sowings if necessary. Several sorts of perennials and bulbs will be in bloom; tie them to neat rods to prevent being blown down.

Green House Plants will need pruning this month, and set them in the open air as much as convenient; water them with water of as equal temperature with the earth in the pots as may be. If any of them are infested with a scaly insect, wash them with a sponge dipped in weak suds; if that does not destroy them, cut the plant down and permit an entire new growth.

Fruit Yard and Orchard.—The trees should be pruned early this month if not done before. Summer pruning can easiest be done with the thumb and finger by pinching off the buds before the wood gets hard. Destroy caterpillars without delay; permit none to escape.—Wash the trees with a weak suds or lye. You may expect a fine growth of wood, with little or no fruit. Currants and gooseberries should be pruned to permit a good growth of fruit.

* * *

Carrots.—The premium of the Worcester Agricultural Society was awarded to Mr. Barbour, who raised 610 bushels to the acre. They cost the cultivator 7 cents per bushel.

Spent Tan and Saw Dust.—Useful for manure, particularly for trees and shrubbery.

For the Michigan Farmer.

Ticks and Scab on Sheep.

MR. HURLBET:—

The important inquiry "How shall I destroy the ticks upon my lambs?" is so common among farmers, that I have concluded an answer may be acceptable to the readers of your paper. Should you concur with me in this opinion, it is at your service for publication.

For a hundred lambs, use twelve pounds of tobacco; boil it six hours in five pails of water; then pour three-fourths of the liquid into a half-hogshead or tub large enough to admit a lamb. Lay a board two feet wide or more, with strips two inches in width nailed onto its edges, upon the edge of the tub and something more elevated, to serve as a conductor of the liquid absorbed by the wool, back into the tub.

Add a sufficient quantity of water, then immerse your lambs, "neck and heels," keeping your hand over their mouth and nostrils to prevent their strangling.

Take them out immediately, lay them upon your conductor, and squeeze the fleece with your hands until it is drained.

The kettle should be replenished and kept boiling, and the tub supplied from it as often as necessary.

This should be done about a week after the sheep are sheared, as the ticks of the whole flock by this time will have collected upon the lambs.

The expense of this process is but trifling at most, and if the farmer raises his tobacco as economy dictates, it is merely nominal, compared with the loss of life and fodder inevitably incurred by neglecting to attend to it, leaving out of the question, (as humanity forbids) the suffering saved to the animal. No animal can thrive while suffering from an external cause, any more than from the privation of food or drink; therefore sheep, and more particularly lambs annoyed through the summer and fall by ticks, will be in a poor condition to brave the inclemency of winter.

I have already made a heavier draught upon the patience of your readers than I intended when I sat down to write; but while writing, it has occurred to me that it may not be out of place to ask a continuance of their indulgence, while I state that the above with some modifications is an effectual remedy for the "scab" a contagious disease among sheep, now raging as I am informed in some of the large flocks in the western part of the state. The sheep should be fed sulphur with their salt a few times, previous to being "dipped," in order to "drive out the disease," and about double the quantity of tobacco necessary to kill ticks should be used.

When the disease is chronic, two applications may be necessary, after which, a few bottles of the liquid should be kept on hand to be applied should any symptoms of the distemper remain. This disease first makes its appearance upon the back or shoulder of the sheep, causing the animal to bite or rub himself as if annoyed by ticks.

By examination a scab may be seen, which, if the distemper is not checked, will spread over the back and shoulders, causing the loss of the fleece, and eventually the loss of the sheep. If the distemper makes its appearance in the winter season, as is generally the case, sulphur should not be given until after shearing, as it will cause a greater loss of wool than would otherwise be sustained.

H. TOWER.

Spring Arbor, May 15th, 1845.

☞ The Albany Cultivator, after remarking that the scab in sheep is produced by an insect, as is made manifest bp the use of the microscope, proceeds as follows:

"From what has been said it must be obvious that the cure of scab lies in the destruction of this insect. Washes of tobacco, hellebore, &c., are sometimes used, but as the insect lies within the skin, we can never be certain of reaching it with these remedies. They may sometimes prove successful, but in general they only mitigate the disease, which, though it may be thus kept for some time in a latent state, will at length break out to the disappointment and vexation of the shepherd.

"A safer method is the application of some substance that will be sure to poison the acari. An ointment compounded according to the following recipe, has proved in our own practice, entirely efficacious.

"Let one pound of pure quicksilver, Venice turpentine, and common oil, of each half a pound, and four pounds of hog's lard, be triturated in a mortar till the quicksilver is thoroughly incorporated with the varions ingredients.

"In using so strong a preparation of mercury, care should be taken that the sheep are properly protected from bad weather. It was in the depth of winter, and in a very cold climate, that we had occasion to use this ointment. Not being at that time acquainted with scab, the sheep became very seriously affected before the disease was identified. Some of the flock lost nearly all their wool, and their bodies, nearly covered with ulcers, presented a most disagreeable appearance. They were put into a barn, kept comfortably warm, and not allowed to go out, except for a short time in the middle of the pleasantest days. In using the ointment, a lump half the size of a hen's egg was used to each sheep, and particular pains were taken to rub it well into the

large veins about the neck. It was also rubbed along the back, and in the worst cases in lines down the sides. Every sheep was saved, and in three weeks all were well; while some of our neighbors, who, from fear of the effects of mercury, trusted to other applications, lost many; and after having kept the disease lingering among their sheep for more than a year, killed them and burnt up the carcasses to stop the infection."

For the Michigan Farmer.

Protecting the roots of Fruit Trees.

MR. EDITOR:—

In your February No. you have an article taken from the Indiana Farmer and Gardener, against the practice of covering the roots of the peach after the ground has been frozen, for the purpose of retarding the fruit buds from opening till after the spring frosts. The writer attempts to establish his position by a process of reasoning, and then introduces a single fact which appears in his opinion fully to confirm it. Facts are important, but before they can be made to sustain a theory, they must be uniformly the same. Little reliance can be placed upon an isolated fact, as will appear, when I state that a friend of mine, who is a practical horticulturist, informs me that he once tried the experiment of covering the roots of his peach trees, and secured a fine crop of peaches without injury to his trees, and that, too, in a country where the culture of peaches had generally been abandoned.

The writer assumes the fact, that previous to its state of repose in the fall, there is a sufficient amount of elaborated sap diffused through the trunk and branches of the tree, to expand the leaves and fruit buds before the sap rises from the roots in the spring; and then proceeds to show that the tree will die from exhaustion just as soon as the light and heat shall have set the elaborated sap in motion in the trunk and limbs, and caused the buds to expand, from the fact that the roots can furnish no new supply of food while frozen. The tree would die, as a matter of course, if the roots did not send up new sap, just as an animal would, which was deprived of food. But why protect the roots at all, if the fruit buds will burst just as quick while frozen, as they would when they are not? The practice of keeping them frozen has been recommended under the impression that it would retard the development of the fruit buds, which I have no doubt it would do, as it certainly did in the case of the gentleman to whom I have referred: his trees did not put out their leaves and flowers until other trees had cast their blows. If then by keeping the roots frozen, the fruit buds are prevented from blooming as early as they otherwise would, I can but commend the practice, notwithstanding all that has been said to the contrary—nor can I conceive the slightest danger to the tree, if the straw is removed from around the tree just as the buds begin to swell. The roots, in that case, will be ready to perform their functions in season: but do not remove the earth around the tree, as did a "gentleman in Huntington Co.," unless you wish your trees to share the same fate as his. The peach has a large tap root, and sends out fewer lateral roots than most other fruit trees; these are generally found within a few inches of the surface. Now to take away the earth and expose them to the action of the frost, would destroy their vitality, and consequently destroy the tree itself. This, I am inclined to think, was the reason why the gentleman referred to lost his trees.

OAKLAND.

The following communication, together with several others, designed for our last number, was received too late for insertion. The subject however is of such a nature that it will still be not unseasonable.

Housing Sheep.

NUMBER 2.

MR. HURLBUT—In my last I mentioned that my sheep were still shut up in the underground port of my barn, and had been from early in December, without having been let out for a moment since they were first enclosed. This system of sheep management was all new to me, especially so far as the practical part was concerned, and so far as the experiment had been carried out by me, fully proved the utility of sheltering that valuable animal during the winter; but what effect the spring would have upon them, yet remained to be tested; and as some had doubts respecting their doing well at the winding up, I assure you that I felt considerable anxiety in this particular—for if it should finally prove disastrous in consequence of loss of life, by the change of the atmosphere, to be experienced by being suddenly exposed to the cold frosty nights which must be expected at this season of the year, and to which they must be subject, (unless they were housed every night for some time,) protection from cold during the winter would in the end be of no avail. And if there is any particular course to be pursued on this point, I am totally uninformed in regard to it; for notwithstanding I asked many questions while east last fall respecting housing sheep, I did not once think to enquire how they were to be unhoused with safety, or whether there was any difficulty in the operation. I finally concluded to pursue the shortest and easiest course; whether it was the safest or not would soon be ascertained. Accordingly last week I set them at liberty, and the first night they were out they were fully exposed to a heavy rain, and the next, to quite a cold and frosty one, yet apparently without any injurious effect; and now after about one week's exposure, although much of the time rather an unpleasant one, they appear to be doing *first rate.* Therefore I consider that the Rubicon is passed, and the system of housing sheep during the entire season of foddering, a decided improvement, not only in the coldest, but equally so during the warmest portion thereof. Indeed the advantages are more particularly seen in the warm and rainy portion, as all know who have any experience, that there is no kind of stock that so soon lose their appetite for hay in warm weather as sheep, especially if they are at liberty to ramble. During the past winter we have had much remarkably warm weather, and those who have had sheep of any considerable number, which have

been exposed to the weather, know that they have required an unusual quantity of grain, and after all, it has failed to keep them in good condition. In this particular the housing system has proved highly beneficial, for with careful observation I have not been able to discover even in the warmest weather, of whatever duration, from the fore part of December to the middle of the present month, (April,) the least failure of appetite with those kept housed.

I will now give some hints on sheep barns, as some of your readers may think it an object to pay some attention to this subject, and did I not know that such is the fact, whether others will believe it or not, I would not have thus intruded myself on the public; yet in this I would not imply that there is a belief on my part that all will follow implicitly what has been, and will be recommended; for I am not so ignorant of human nature as to believe any such thing. I know full well with what tenacity all mankind, especially farmers, hold to their own modes of doing things, notwithstanding many of them may be quite ridiculous. The general plan of building sheep barns in that portion of the Eastern States which I visited last fall, is to erect them on the south or east side of a rise of ground, rising not more than 8 or 10 feet above the level below, and excavating a cellar, wall up the back side and ends, and thus make the building of two stories, the lower one 8 or 9 feet high to contain the hay. The front of the basement is clapboarded, having a door of sufficient width to back a cart or wagon in to get out the manure; the hay is dropped through a scuttle in the upper floor into a box 6 or 8 feet square, and about 3 feet in height, which stands on the lower floor, which is of earth. The size of the box to receive the hay depends on the number of sheep to be fed; the box is to prevent the sheep from running over it and trampling it under foot before it is put into the racks, as well as to keep it from falling on them when it is dropped from above. To those that can afford the expense, the above plan is preferable, but as there are many in our State who may think it too expensive for their present means, I will suggest a cheap shelter by which they may be able to test the system of protection with little expense, and which will protect the sheep but not the hay, which latter although of considerable consequence, is not of so much, in my estimation, as the former. My plan for a cheap shelter is to erect posts from 4 to 6 feet high, well set in the ground, on the tops of which let plates be placed with regular rafters, and a board or thatched roof be put on; then stack the hay at the gable ends, having windows to pitch the hay through, which may be closed when the weather requires. It will be necessary to have two or three cross ties to prevent the plates from spreading. The number required will depend on the size of the building. Let the posts be clapboarded.

Having thus given what little experience I have had to the public, I ask them in some degree to reciprocate. I claim no superior knowledge in sheep husbandry, for, as I informed you in my last number, I am yet a learner, and although intended more particularly for the inexperienced, my object is principally to attract the attention of our farmers to what I consider of vital importance to the prosperity of our State, and thereby arouse their attention to the necessity of adopting *improved means*, in order to reap the greatest profits. This object I conceive can only be obtained by mutual contributions, thro' the columns of our agricultural paper. I close for the present, but shall continue as I think the subject shall seem to require.

G. J. BARKER.

Manchester, Washtenaw Co.
April 23, 1845.

Having thus presented Mr. Barker's views and experience upon the best method of sheep growing, it is but fair that we give place to the following, presenting opposite opinions. The reader will decide for himself, between the two courses recommended. ED.

MR. EDITOR:—

In the last number of the Farmer appears an article entitled "Housing Sheep," upon which I propose to offer to your readers without the formality of an apology, a few thoughts, should you think them worthy of an insertion.

Your correspondent, (my neighbor,) urges as the advantages of his highly recommended plan: 1st. A saving of keeping and life; and 2d. An improvement of the quantity and quality of wool. Admitting for the present these advantages: they are not, it is obvious, the only, neither in my opinion the most important objects to be secured. Your correspondent assumes length of life to be consequent upon his plan. It may be considered surperfluous to attempt to prove a negative to an assumption of this character, yet I think there are considerations which weigh against it.

Cleanliness, and wholesome air, are in the animal economy indispensable conditions of health; neither of which I think can be secured in an enclosure small and tight enough to equalize the temperature of winter. Such equalization can be accomplished under the circumstances only by confined animal heat, and by preventing the free circulation of healthy air. The atmosphere in an enclosure twenty-four feet square, and probably low, containing one hundred sheep, would be constantly charged with poisonous effluvia, arising from decaying litter, and would certainly impair the constitution and engender distempers. Exercise is as necessary as pure air, and this would be almost certainly unattainable.

Your correspondent considers the comparatively small quantity of feed very important; but I ask what comparison does the small requisition of the delicate shop-keeper bear to the robust constitution and fair health of the hardy yeoman, who provides fuel, and materials for building and fencing, in winter? Experience teaches that disease and distempers are far more frequent in warm than in cold weather; and reason teaches that the natural fire of life and their abundant supply of clothing are sufficient to protect the sheep in extremes of cold in a temperate climate. Now has not your correspondent prematurely concluded that his plan will contribute to the saving of life? Will it not unavoidably enervate the constitution and engender disease and distempers? A favorable transmission is a consideration with woolgrowers by no means secondary. The old adage is, that like begets like—and philosophy and ex-

perience demonstrate it. Consequently the offspring would be like its progenitor—weakly and predisposed to disease.

My experience in sheep husbandry extends through the whole of my life, six years of which has been in Michigan; and I have owned from one to six hundred. Although I have never put any of my sheep in close confinement during winter, I have watched closely the different kinds of treatment, and conclude that the most favorable manner of wintering is to provide sufficient shelter and commodious yards, and let instinct further dictate. Only when we have rains in winter would I confine my sheep, if I had suitable buildings. It has become proverbial that severe winters are far more favorable for sheep, as well as other domestic animals, than warm, open ones. I agree with your correspondent, that it is well to provide water; notwithstanding, they will do without it. I have one hundred and twenty of my last year's lambs, that were wintered the past winter in a field without water or shelter, the most of which I should not be ashamed to compare with his fifty. I think it must be decidedly injurious to keep ewes in close confinement during the whole time of feeding. In Michigan, we are not subject to sudden and heavy snows, as in New England, where hundreds of sheep have been smothered in a night.

T. L. SPAFARD.

Manchester, Washtenaw Co. }
April 29, 1845. }

The Army Worm.

A correspondent writes us from Lyons, Ionia Co., as follows:

"The Army worm has begun its depredations here in this vicinity for the first time. It made its appearance as early as the 15th of April. They are found in about all the wheat and clover. Farmers appear somewhat alarmed, but as yet they have not hatched in sufficient numbers to materially injure wheat. I have fifteen acres of clover and timothy, in which they have hatched, and through which they have been in every direction, eating the clover close, and leaving the timothy. I have ditched on the sides and through the centre of the field, digging deep pits once in every few rods in the ditches. This uses them up fast. What amount of damage they will yet do we cannot foretell.

H. HAYES.

North Plains, May 2, 1845.

For the Michigan Farmer.

Brassica Rapa or Turnip Cabbage may be cultivated as easily as common cabbage, and as many tons raised on an acre as Ruta Baga. They produce a bulb above ground which grows from twelve to twenty inches in circumference. They are free from dirt, therefore less trouble in feeding to stock; hardy as common cabbage, and cultivated the same way. In flavor they partake of the cabbage and ruta baga, and are an excellent article for the table if pulled when small, or about the size of a coffee cup. Sow the seeds in May or early in June and transplant, fifteen inches apart each way, or sow broadcast and thin out.

N.

For the Michigan Farmer.

Plow and Hoe Often.

I fear our farmers and gardeners are not sufficiently aware of the fact that great benefit results from ploughing and harrowing often, especially when we have what is usually termed a drought. I am of opinion that too little hoeing in dry and too much in wet weather is usually practiced. In a dry time the ground should be often stirred even if no weeds or grass are to be destroyed. The writer of this article a few years since had a patch of potatoes planted the same day by the same hand; soil and seed equal. During the dry season it was necessary to pass and repass almost daily by the side of one row with a plough and cultivator; the hoe was applied to remove what dirt was thrown on the potatoes. When the potatoes were dug the one row yielded fifty per cent. more, which were larger and better.—Since then I have been in the practice of applying the hoe freely in dry weather with success.

N.

Protection of Cows against flies.—As the "fly season" is approaching, I am reminded of a discovery I have made, (which should have been made public before,) to prevent the annoyance of cows by flies while milking. It is simply, blanketing. A blanket should be provided for each milker, of such ample dimensions that it will cover the whole animal, falling down as low as the knees, with the right corner scolloped out for the milker. Make a loop for the horns. It may be made of any material, but coarse cottons being the cheapest and lightest, recommend themselves. Animals unused to blanketing, will of course at first demur, but by gentleness or slight coercion, they soon become as gentle to the spreading of the blanket, as they are to the approach of the milker. Try it. "It works like a charm."—*Albany Cult.* G. COOKE.

Tivoli, N. Y. 1845.

To preserve Eggs for a long time.—As soon as hens begin to lay in the spring, cover each egg with a thick coating of lard, or other soft grease, and then lay them with the small end downwards, in regular piles, on the cellar floor; or pack them in earthen jars, filled with melted fat, not hot; this keeps out the air. Or keep them in jars, and pour lime water on them, which keeps the air out, and does not injure them, for everybody knows that eggs are composed of lime.—*Am. Ag.*

Wiard's Gang Plow.

Designed more especially for the second and third plowing of summer fallows. It turns three or four furrows at once.

MICHIGAN FARMER.

JACKSON, JUNE, 1845.

To Subscribers.

We would remind subscribers that on the 1st of July next, the franking privilege of Post-masters ceases, and they will no longer be authorized to transmit subscription dues free of postage. If, then, any wish to save themselves letter postage hereafter, they will do well to make use of the present month to forward their dues. It is not pretended that the counsel is entirely disinterested, as we have some slight personal interest in the matter.

As a further inducement, we will be responsible for the loss of all monies sent by mail the present month, when satisfactory evidence is rendered, that the money so presumed to be lost, was actually mailed.

To Mechanics.

We would suggest to some of our ingenious mechanics, who would be willing to confer a public favor at a small expenditure of time and contrivance, to send us plans of farm houses, and barns, the former to cost from $500 to $1000, the latter from $200 to $400, with an accompanying description. The plan or plans deemed best, we will have engraved, and published.

Turnip Culture.

This is a branch of husbandry, the importance of which, it would seem, is not yet duly appreciated among us. Our soil is generally admirably adapted to the ruta baga, and the crop has as yet but few insect enemies to contend with. Nothing but careful and right cultivation is needed, to produce as large crops of this useful vegetable as can be grown any where; and when grown, its usefulness to the farmer for feed to a stock of cattle or sheep would seem too apparent to require mentioning. It is serviceable to every description of farm stock; but is particularly so to young cattle, tending to keep them through the winter in a thrifty,growing condition. For those, especially, who depend upon marsh hay, straw and corn stalks to winter their stock, a good supply of roots is indispensable, if they would have them come out healthy and in good order in the spring.

For the ruta baga there are two modes of culture—broadcast, and in drills. Of these, the former is much the most common, and in the case of timbered land just cleared, or an old fallow on the openings, cross-plowed for the first time, as also perhaps for a grass ley, this is the preferable method. In all other cases, it is much better to sow in drills. For either method, the ground should be rich; if not naturally, it should be made so. In any crop requiring necessarily a large amount of labor for a small extent of ground, it is economy so to manage as to make the acreable product as great as possible. The soil should be well worked. Three times plowing is not too much: though twice with harrowing will do. As the plant needs a fine tilth, the ground designed to be sown with it, should never be touched when wet.

Time of sowing between the 10th and 25th of June. Quantity of seed per acre for broadcast sowing, 8 oz. The quantity used, varies greatly, however; some sowing but 4 oz. and others a pound. Those who use the latter quantity of course make large allowance for

the ravages of insects and defective seed, and expect to thin out by hand. Ground where cattle, sheep, or hogs have been yarded, or which was heavily manured the preceding year, is best for this crop.

When the seed is sown broadcast, the directions are—harrow in lightly, in a time neither very wet nor very dry, and when the plants have attained a proper size, remove to the vacant spaces, with a transplanting trowel, some of the plants which stand too thick. Then thin out, saving only the most thrifty, and leaving them 18 inches apart. Keep the ground clean.

The best method of drill culture is believed to be as follows: When ready to sow, if your land is rich enough, throw it into ridges three feet apart; level off the top of the ridge with a small hand roller, or other contrivance, and follow with the drill-barrow, graduated so as to drop a seed once in three or four inches. If the land lacks fertility, after throwing into ridges as before mentioned, cart on barn-yard manure, casting it between the ridges; then reverse the furrows, forming ridges over the manure. Sow as before. Hoe the crop three weeks after planting, or when the plants have rough leaves an inch broad, and three weeks after hoe again, thinning out at the first hoeing to from 8 to 12 inches, according to the richness of the soil.—Keep the ground clean throughout. By managing thus, your crop will probably be from 4 to 800 bushels per acre.

As a preventive of the fly, steep the seed in sulphur water, putting an ounce of sulphur to a pint of water, which will be sufficient for soaking about three pounds of seed. This remedy, it is said, is found to be perfectly effectual.

There are other insect enemies of the turnip, among which we once became acquainted with a greenish colored caterpillar, of about an inch in length when fully grown, which threatened destruction to a promising crop. After pretty fairly riddling the leaves, they suddenly disappeared, having probably betaken themselves away to undergo their metamorphosis. The crop recovered its thritifness, and gave a good yield. We know of no remedy against these—they were too numerous to exterminate by hand. Birds are perhaps the most efficient destroyers of these, and the other insects that infest the crop.

Sow buckwheat from the 20th of June to the 1st of July, half a bushel to the acre. The ground should be plowed twice. If not yet plowed, do it now, and again just before sowing. Clover seed may be sown with buckwheat. It is a much safer way than to sow it on winter wheat in the spring.

The Summer Fallow.

This should be broken up early (unless the ground is in clover,) for several reasons. Plowing is done more easily early in the season. Defer it, and the ground is apt to become so baked, as to make the operation difficult, and weeds will get too strong a foothold. Early plowing affords the soil a longer opportunity to imbibe the fertilizing gases of the atmosphere—and to become disintegrated, and in a state to afford its alkalies for the uses of vegetation.

If you have sheep, and your summer fallow is a separate field, you will, of course, turn them on during the summer, to keep down the weeds. In this way your field will be fertilized, and you will need to plow your land but twice. If you cannot do this, and your land is not seeded down, and especially if the soil is light, it is a good plan to sow a crop of buckwheat, at your second plowing, which, just before you wish to sow your wheat, may be plowed under to fertilize the land. Then sow the wheat. You will in that case, need some contrivance by which the buckwheat may be prostrated as the plough advances, so that it may be perfectly covered by the furrow; a common log chain fastened to the beam, and hanging loose, will answer the purpose. The buckwheat should be plowed under while in the blossom, and before any of the seeds are formed—for the double purpose of preventing their germination, and the exhaustion of the soil in forming the seed.

The first plowing of a summer fallow should be deep. Ten or twelve inches is none too much, especially if the land is worn. More is better than less.

Never neglect your summer fallow, as many do, until weeds grow up on it, and form their seeds. The reason for this caution is too obvious to require mentioning.

We suppose the Michigan sub-soil plow will this summer be more generally tested, and the fact whether or not it will dispense entirely with summer fallowing grass lands, be more fully determined. If it will do this with a Timothy sward, as is asserted, it will save a great amount of labor, as well as of pasturage during the summer; for all you will have to do will be to turn over the sod with it, just before sowing the wheat. This method, as is well known, will do well with the common plow, when the grass is clover only.

Wheat Insect.

The following article has for some time been going the rounds of the newspaper, and to some extent of the agricultural press:

The Wheat Insect.—A correspondent of the New York Mirror gives an experiment made by himself, which serves to throw some light upon the nature and character of the wheat insect. He says, "In the spring of 1844, I placed a bag containing half a bushel of white flint wheat, in a seed drawer, under glass; and near the furnace of my green house. On the 6th of March, 1845, I opened the bag, and to my surprise, found thousands of living insects, such as are now presented you—some were on the point of leaving the kernel, others were just commencing to eat through, and many were perfectly formed, and running about in all directions. Six years ago I used to

soak my early grains in salt brine, for the purpose of destroying the eggs of the insect, which I assured my neighbors, much to their amusement and unbelief, was ensconced in the kernel. Now, by accident, the fact is made manifest. The insect would not have appeared till June, perhaps, had the wheat been sown. The warm situation it occupied in the greenhouse brought it thus early to maturity."

The form in which the foregoing article is put forth, is liable to lead to some misconceptions.—First, the title. '*The* wheat insect,' would induce the impression that there is but one species of insects that annoys wheat, or at least that the one here mentioned, is so much more injurious to that grain than any other, that it is entitled to be called "*the* insect," by way of eminence. Such vague mention of such subjects does much mischief by producing confusion and contradictory statements. The inexperienced farmer, being led to believe that the insect here described is the one which he has most to fear, would conclude that the remedy mentioned, (soaking in brine) would destroy his foe. He tries it, and finding that the insect which has troubled his fields still continues its ravages undisturbed, he feels himself humbugged, and sets the matter down as another chimera of "Book-farming."

There are several species of insects that prey upon wheat, differing essentially in their form, habits, and modes of annoyance. That above mentioned is probably one of the varieties which chiefly infest the granary, and *always* lay their eggs upon, (not within) the kernel of the wheat. Were the description of the insect minutely given, (and it is to be regretted that it was not) we should be enabled to determine to which variety it belonged. So far as we can judge from this account, it would seem not improbable that it was what is termed the Angoumois moth, originally found in France, and which, or one very similar to it, has been noticed in Virginia, Connecticut, and Maine. We take the following description of it from the Farmer's Encyclopædia:

"The Angoumois moth, or *Anacampsis cerealella*, in its perfected state, is a four-winged insect, about three-eighths of an inch long, when its wings are shut. It has a pair of tapering curved feelers, turned over its head. Its upper wings are narrow, of a light brown color, without spots, and have the lustre of satin; they cover the body horizontally above, but droop a little at the sides. The lower wings and the rest of the body are ash-colored. This moth lays its eggs, which vary in number from sixty to ninety, in clusters, on the ears of wheat, rye, and barley, most often while these plants are growing in the field, and the ears are young and tender; sometimes also on stored grain in the autumn. Hence it appears that they breed twice a year; the insects from the eggs laid in the early part of the summer, coming to perfection and providing for another brood of moth-worms in the autumn. The little worm-like caterpillars, as soon as they are hatched, disperse, and each one selects a single grain, into which it burrows immediately at the most tender part, and remains concealed therein after the grain is harvested. It devours the mealy substance within the hull; and this destruction goes on so secretly, that it can only be detected by the softness of the grain or the loss of its weight.—When fully grown, this caterpillar is not more than one-fifth of an inch long. If is of a white color, with a brownish head; and it has six small jointed legs, and ten extremely small wart-like prop-legs. Duhamel has represented it as having two little horns just behind the head, and two short bristles at the end of its tapering body.—Having eaten out the heart of the grain, which is just enough for all its wants, it spins a silken web or curtain to divide the hollow, lengthwise, into two unequal parts, the smaller containing the rejected fragments of its food, and the larger cavity serving instead of a cocoon, wherein the insect undergoes its transformations. Before turning to a chrysalis it gnaws a small hole nearly or quite through the hull, and sometimes also through the chaffy covering of the grain, through which it can make its escape easily when it becomes a winged moth. The insects of the first, or summer brood, come to maturity in about three weeks, remain but a short time in the chrysalis state, and turn to winged moths in the autumn, and at this time may be found in the evening, in great numbers, laying their eggs on the grain stowed in barns and granaries. The moth-worms of the second brood remain in the grain through the winter, and do not change to winged insects till the following summer, when they come out, fly into the fields in the night, and lay their eggs on the young ears of the growing grain. When damaged grain is sown, it comes up very thin; the infected kernels never sprout, but the insects lodged in them remain alive, finish their transformations in the field, and in due time come out of the ground in the winged form."

An insect somewhat similar but larger, is sometimes met with in this State, in wheat, after being threshed in the fall.

Against this class of insects, experience has furnished two efficient remedies. One is kiln-drying the wheat for 12 or 15 hours at a temperature of about 150 deg. The other more easy, and equally efficient method is the use of salt. Seed wheat, soaked in strong brine, according to the suggestion above made, kills the egg of the insect, and is probably the best mode of preparation for seed wheat infested in this way. For preservation in the granary, sprinkle a little dry salt upon successive layers of the wheat as it is poured in. A half peck of salt will serve for a hogshead of wheat. When the grain is wanted for use, sift out the salt; the wheat will be found uninjured, and the salt will be good for cattle. So says a correspondent of the Tennessee Agriculturist, who tried the experiment with this result—while some of the same wheat in another hogshead, without salt, was entirely destroyed.

Six or eight pounds of salt, sprinkled over 100 sheaves, in stacking, produces the same effect.

But that which, from its preeminence in destructive power, is entitled, by way of distinction, to be called among us, "*the* wheat insect," has habits very different from the above. Appearing in the form of a small, dark-colored fly, it lays its eggs upon the leaf of the young wheat, just after its first side leaves have put forth; they hatch, crawl down to the stem, adhere to it, and

imbibe its juices, gradually change from white to a flax-seed color—and at one period are scarcely distinguishable from that seed—and at length emerge in the form of a fly, to renew the business of propagating the species. The injury seems to be done while the insect is adhering to the stalk, causing the wheat in some cases to turn yellow, and always materially injuring its thriftiness—frequently making a promising, well cultivated field not worth the harvesting. Notwithstanding all the attention which has been given to the best method of preventing the ravages of this destroyer of the wheat crop, we are not aware that any effectual one has yet been found. At first, late sowing was recommended. We tried it, and found the late sowing as bad as the insect, and after all, it did not prevent the insect from doing its work in the spring. We believe there is but one way by which to diminish, and perhaps finally remove this annoyance—and that is general attention to the two following rules:

1st. Never raise two successive crops of wheat on the same land—nor, so far as you can avoid it, on adjoining land.

2d. Practice such a rotation of crops, as will cause the same field to be sown with wheat but once in four or five years.

Cheese.

It appears from the following statistical table obtained from the canal officer at Albany, that this important product of the dairy is rapidly on the increase in some parts of our country:

Arrived at the Hudson River.

1834	6,340,000	pounds.
1835	9,586,000	"
1836	14,060,000	"
1837	15,560,000	"
1838	13,810,000	"
1839	14,530,000	"
1840	18,820,000	"
1841	14,170,000	"
1842	19,004,000	"
1843	24,334,000	"
1844	26,674,500	"

There was exported to England in

1843	2,553,416	pounds.
1844	5,000,000	"

American cheese it is said is driving that from Ireland out of the English market. The West Indies are a large customer, and large quantities have been sent to China.

The foreign market for this commodity is fast enlarging, and this of course will have a tendency to keep up the price at home. And this is the only aspect in which the matter of a foreign market for this article is interesting at present to the inhabitants of Michigan—for we do not as yet supply our own demand. We actually continue to import from other states a portion of the cheese we consume, paying both the cost of transportation and the profits of the importer. Cheese at this time retails in our villages at from 9 to 11 cents per pound. It could be sold by the quantity at 8 cents. There has been no one of our nine years acquaintance with the state, in which during some portion of it, cheese has not brought a handsomely remunerating price.

To what then is owing so general a neglect of this department of farming? Why does not the State produce at least enough for its own consumption, if it do not help to swell the amount of foreign exportation? This question we confess ourselves at a loss to answer. We know of but one explanation of the fact, and that is found in the circumstance that the state was principally settled by farmers from grain growing districts, and in the proverbial slowness with which farmers, as a class, change their modes of management.

It is not that we have not lands well adapted to the growth of any of the grasses. The timbered lands of this State are excellent grass lands.—Even the openings, before being seeded down, might support a herd of cows profitably by making use of the wild feed for three or four months, and by sowing early in August a field of winter rye to supply pasturage during fall and spring; (and this would produce a crop of rye after the cows should be turned off from it,) and marsh hay and roots would furnish a resource for winter.—And surely if Eastern farmers, who pay from forty to sixty dollars an acre for their lands, can make cheese at 4½ cents per pound, and live by it, what is to hinder a farmer here from making money, on our cheap farms, with quite as good a soil, and getting almost double for his product—especially when in most parts he can have the benefit of any amount of wild feed during the summer for nothing.

Let us look at the profits of this business a little more in detail. It is generally estimated that two acres of pasture and one of meadow will support a cow the year round. Sixty acres, then, will keep twenty cows. With ordinary cows and with ordinary management, 300 lbs. of cheese may be made from each cow in the season. This at 6 cents per lb. (and we do not know that our market has ever fallen below this,) would give $18,00 as the yearly product of cheese from a single cow—leaving, too, a considerable time in the spring and fall for making butter. Thus the 20 cows would give a yearly product of $360—to which add the value of the butter and whey—not less than $50—and we have $410. Let it be considered too, that dairy farming tends, by the quantity of animal and vegetable manure which it returns to the soil, to raise land to a higher state of fertility—to work it *up*, instead of working it *down*. We leave it now to the consideration of farmers, whether the same amount could be realized from the sixty acres, with the same expenditure of labor, by grain growing, as it has turned out for the last few years.

We would not be understood as recommending dairying as the most prominent business of our farmers. All are not fitted by their knowledge of the business to embark in it. Men generally prosper best in those occupations which they best understand. But we *do* say that it would be well for the State if more were engaged in this calling than there are,—that we ought to produce at least enough to supply the home demand—and that there is abundant encouragement for those among us who understand this department of husbandry, and for Eastern dairymen, who may be turning their attention to this State as a residence, to embark in it.

We extract the following on this subject from the Albany Cultivator:

Cheese Manufacture in Herkimer Co. —"Some farmers make less than 800 pounds of cheese per cow in a season, while others exceed 600. Perhaps some of this difference may be accounted for by the inequality of advantages; but I am assured by gentlemen in whose skill in the art we have the highest confidence, that there is a great difference in the product per cow, when all advantages are equal. One case I will mention: A gentleman who has for years made more than 600 pounds per cow in a season, from a dairy of 25 cows, let out his dairy to a tenant, whose reputation as a common cheese-maker, was of the highest order. He observed that the tenant's cheeses were smaller and lighter than they should be, and suspecting the cause, watched his mode of making them, and found it to be like that of nearly all the cheese makers in the country, by guess. The milk was tempered, and set, and the curd scalded without a thermometer, and less care was taken in other parts of the process than he was accustomed to. He attempted to teach the tenant, who was rather prejudiced against "book farming"—reminded him of his reputation. The landlord, however, made a few cheeses himself, and the tenant looked on. These were found to be larger and heavier than the cheeses made by the tenant. The tenant then adopted the improved mode, and he could make as large a cheese as his friend. Both gentlemen now agree, that the improved mode increased the amount about 10 per cent. Now the tenant was evidently more than an ordinary cheese maker, for he would have made over five hundred lbs. per cow during the season, but by the improved mode he made over six hundred."

A Hint to Barn-builders.

As this is the month in which many barns are built, it will not be amiss to direct attention to the construction of a part upon which the economy and profit of farm management essentially depends, yet upon which there is a more general and wide departure from the best method, than in any other thing. We refer to the stables.

It is now ascertained with certainty, both by the investigations of science, and by the experience of many practical farmers, that of animal manures, the liquid are far more fertilizing and valuable than the solid. It is manifest that by the usual mode of management during the season of foddering, the former are nearly lost.

They abound in ammonia and the phosphates, the most stimulating of all manures, and these and their other fertilizing ingredients, being in a state of solution, are in a condition to be immediately appropriated to the uses of vegetation: for every manure, before it can be taken up by the organs of a plant, and consequently before it can be of any benefit to it, must be dissolved in water. In every country in which agriculture has been brought to any high degree of perfection, great pains are taken to save and apply liquid manures. Nor is this one of those improvements which are applicable only where the population is crowded and where land is dear, and labor cheap. It is one that will pay well when the reverse is the case as in this state—for the expense need not be great, in proportion to the annual benefit.

In the hope that some whose means may enable them to do so, will adopt some plan of the kind recommended, and thus demonstrate its utility to others, we give here in brief a few directions, gathered from reliable sources, as to the manner of constructing stables and reservoirs with this view.

1st. Let there be stable room provided not only for horses, but cattle also.

2d. Let the floor of the stable be made water tight, and inclined a little, so as to allow the liquid manure to pass off into a gutter in the rear, leading to the cistern.

3d. Let a cistern be constructed according to the directions given in another place in this number, sufficient to hold from 20 to 60 hogsheads according to the amount of stock. One made round 8 feet deep and 10 feet in diameter, will serve for a farm of 80 acres.

4th. Mix 2 or 3 parts of water in the cistern to prevent the waste of the ammonia by decomposition. Probably the best way where water is convenient would be to wash off the stable floors occasionally with water.

5th. Apply the liquid in the spring and summer to grass lands, or root crops or fruit trees in this way. Fix a hogshead upon a cart, and fill it from the cistern by means of a small pump—and when carried to the field distribute as it is driven along, by letting it into a transverse trough pierced with holes in the manner of those employed for street-waterings. For garden use, it may be distributed by means of a garden-engine or watering-pot.

It should be applied in damp, cloudy weather, to prevent loss by evaporation.

Another way to save manures, which may be considered preferable by some, is to have a cellar under the stable for the reception of both solid and liquid manure, where being saved from loss, either by evaporation or leaching, they can be preserved in good condition. If marsh muck, marl, lime, plaster, or even common soil is occasionally added to the heap, it is rendered better. This plan costs little extra labor or pains of any kind.

Spare the Birds.

Birds are the farmer's friends, and manifest their friendship not only by giving him the cheerful music of their notes, but by serving as checks to the increase of some of his enemies of the insect creation. When undisturbed, they like to follow in the wake of the plough, and forage daintily upon their favorite food, thus exposed within their reach. The benefit which they thus confer is incalculably greater than the trifling loss of the grain which they claim as their share. Even the blackbird, which is generally regarded with an evil eye as an unmitigated pest of the grain field, we

learned, in our farming days, to look upon with complacency, when we observed how fast his busy bill picked up worms and bugs from the furrow. We even conceived a kind of friendship for the rogue as he grew more tame and familiar from impunity; and wished for his wonted companionship, as we followed the plough across the fallow. His merry hop, and the half roguish, half timid glance of the eye, cast up every now and then to watch our motions, the gourmand relish with which he caught up the nice tit bits of the ground, won upon our good-nature, and we became declared friends to all the fraternity. And afterwards when they alighted upon the wheat heads, and began to take that which we would fain have reserved, we came to consider it but as just hire for their services—and, so their contributions were only levied with reasonable moderation, they were seldom disturbed.

Some German State, (we forget which,) tried an experiment on this point, by offering a premium for small birds, destroyers of grain and fruit. They were slain without mercy, and the consequence was that insects increased to such a degree as to prove infinitely more destructive than the birds against which war had been waged.—They were glad to give the birds their wonted license, and these, upon being suffered to increase, speedily abated the nuisance.

The wheat crop--its prospects.

From every quarter we hear the most encouraging accounts of the condition of the wheat crop. The papers of every section of this state unite in the anticipation of an abundant harvest. The wheat insect appears nearly to have intermitted its ravages—the crop emerged perfectly unhurt from a changeable, snowless winter, and since the opening of spring, with the exception of one or two seasons of drouth, which however has not been very severe, the progress of the crop has been of the most promising description.

The next thing with the farmer to having a good crop, is having a good market for it. It cannot be anticipated with much certainty at this time how this will be—but it is understood that there exists one favorable element of calculation, viz: the quantity of old wheat remaining over in the country from last year's crop is small—so that the new supply will come into an unclogged market.

With a good crop and a fair price, the farming community will go far towards ridding themselves of debt—that curse under which they have so long and so generally labored.

Bees and Bee-hives.

Will not some one experienced in keeping bees, inform us what kind of hive is found the best? The old-fashioned hives, and the old-fashioned methods seem to be still in very general use; but surely a hive that will enable us to procure the honey without destroying or disturbing the bees, and which at the same time serves to protect them from the moth, must be vastly preferable. Such hives there are—covered, it may be, by patents; but would it not be worth while to procure them, notwithstanding?

Corn-stalk Sugar.

An exchange paper has come to hand giving some new, and apparently important directions for the manufacture of this article, by following which we think the chance of success would be greatly increased. We have not room for them in this number, but will give them in our next.—It would probably still be in time to plant for this purpose.

Jack Frost.

This troublesome personage has nearly destroyed the fine promise of fruit with which the season opened. Probably nine tenths of the fruit throughout the State is lost. If misery loves company, however, we can draw some consolation from the knowledge that our neighbors are no better off. In southern Ohio, the fruit was destroyed a month before ours. And since, that in the northern part of the state has shared the same fate. On the south and east sides of our little lakes the fruit is probably to some extent saved.

How Corn should be worked.—The cultivator is the best instrument for tilling corn, and no farmer should be without it. It goes deep enough to eradicate weeds, but not so deep as to turn up the manure which ought always to be applied to the corn crop. It almost dispenses with the labor of the hoe. It should be passed through the corn three times in the season, the first time as soon as the corn is far enough advanced for a row to be plainly distinguished. Those not having a cultivator can use a small plough the first time, turning the furrows *from* the hills. The second time, use a harrow narrow enough to pass between the rows, furnished with handles. The reason for using the plough but once, is, to prevent the cutting off of the roots of the corn which by the time of the second working, have spread considerably. By any mode of culture, corn will pay well to be gone through three times. Leaving the ground clean for the succeeding crop is no small item. The ground should not be heaped up around the hills, but well stirred. Apply ashes and plaster mixed, at the first hoeing.

Having said how corn *should* be cultivated, it may not be amiss to mention how it ought not to be. You ought not to defer the first hoeing until the corn is up, (or from its age *ought* to be,) knee high, and looks as yellow as though it had the fever and ague. There is neither sport nor profit in witnessing a struggle between your corn and the weeds—and you would be excusable if you did not stand by, and wait to see fair play; for corn is a tender plant, less hardy than its vagabond antagonists, and needs your help, which it will reward generously. You ought not to rest content with one hoeing, leaving the pigeon-grass and pig-weed to ripen their seeds in your field. You ought not to rest satisfied with getting 15 bushels of shelled corn to the acre—no, nor 40. Make up your mind that one acre well manured, and well cultivated, will bring more clear profit than ten managed in a slovenly way.

If you lie upon roses when young, you'll lie upon thorns when old.

Domestic Economy.

Plain Rusk Pudding.

Rusk your bread in the oven, and pound it fine; to five heaped table spoonfuls of it, put a quart of milk, three beaten eggs, three table spoonfuls of rolled sugar, a teaspoonful of salt, half a nutmeg, and three table spoonfuls of melted butter; bake an hour. It may be eaten without sauce.

Baked Rice Pudding.

Boil a quarter of a pound of unground rice, in a quart of milk, till soft; then stir in a quarter of a pound of butter; take it from the fire, put in a quart of cold milk, two tea-spoonfuls of salt, and a grated nutmeg. When lukewarm, beat four eggs with one-fourth of a pound of sugar, and stir it into the pudding. Add half a pound of raisins, and turn the whole into a buttered pudding dish, and bake it three quarters of an hour.—*Cult.*

Recipe for making a Blue Dye.—"Take two bushels of purslain, (*portulacea,*) known as 'pursley;' add a sufficient quantity of water to cover it, when pressed down into the kettle, and boil until thoroughly cooked; then strain off the liquor; also, one pound of ground logwood, boiled separately; dissolve one quarter of a pound of alum in a sufficient quantity of water to cover four pounds of wool or cloth; then boil the wool or cloth in the alum water two hours; then add the purslain liquor and the logwood, and boil two hours more.—When the article is first taken from the dye, it will have a purple hue; but will soon turn to a handsome blue, on being exposed to the air. The quantity may be increased or diminished as required, observing the above proportions."

Lucerne, or French Clover.

The following article from the N. E. Farmer strongly recommends the culture of lucerne.—We have long been of the opinion that it is better suited to a large portion of the soils of this state than any other grass. One impediment in the way of its culture is the difficulty of procuring seed. The seed is scarce and costly. But for this very reason it would be the more profitable as an object of culture for some years for the seed alone. Those who have it in their power to procure the seed, and have land of the proper description, we are sure would do well to try it.

It is useless to sow it on wet lands, or on lands imperfectly subdued, or on other than rich soils.

The time recommended for sowing, it will be seen, is from the 1st to the 15th of May. But it will answer during the month of June:—Ed.

It seems not a little strange to us, if one-half of what has been said in favor of this grass be true, that it is not more extensively cultivated in this section of the country than it is. We would recommend experiments with it on a small scale, this season, and if we are not greatly mistaken in our opinion, the result of such experiments will be in favor of this grass.

The late Hon. John Lowell, of Roxbury, in a communication published in vol. 8, No. 52, of the N. E. Farmer, upon the subject of Lucerne, remarks:

"Having through your valuable journal, in successive years, recommended the culture of lucerne grass, I feel it to be a duty to state all which my experience and information enables me to do, on the subject. It is cruel, lightly and on trivial grounds, to lead others into error. I waited, therefore, six years before I ventured to recommend the culture of lucerne—a plant far more valuable than any species of clover.

"My own experiments have been much more extensive, since I addressed you; and they are more favorable to the culture of lucerne than any former ones. On land like my own, I will undertake to say, that lucerne will, in common years, yield more hay to the acre, than any other grass. I this year had a piece sowed with lucerne, and tall meadow oat grass, in equal quantities, that is, in such proportions as to equalize the product of each, to wit, 12 pounds of lucerne, to a bushel of tall meadow oat seed. It produced three tons to the acre, made into hay on the 30th of May. The lucerne is now (June 23d,) fit to cut again, being nearly four feet high, in rich spots, and three feet on an average.

"With me, it succeeds on all soils except moist ones. I ought to say, however, that many persons have failed in cultivating it. From what I can learn, it is best adapted to warm gravel, or sandy loams, which have sufficient strength to yield good crops of clover the first year after manure.

"The hay from lucerne is far superior to the best clover I have seen. It is more green than any other hay, and it retains its leaves in drying almost as well as the culmiferous grasses."

The following remarks on Lucerne are copied from Buel's Farmer's Companion:

"Lucerne is a deep-rooted perennial plant, sending up numerous small and clover-like shoots, with blue or violet spikes of flowers. With us it is often called French clover, and is found to be as hardy as red clover. It was extensively cultivated by the Romans, and commended by Columella as the choicest of all fodder. Three quarters of an acre of it, he thought abundantly sufficient to feed three horses during the whole year.

The soil for lucerne must be dry, friable, inclining to sand, and with a subsoil not inferior to the surface. Unless the subsoil be good, deep, and dry, it is in vain to attempt the cultivation of lucerne. A friable, deep, sandy loam is excellent for it. No land is too rich for it. The preparation of the soil consists in deep plowing and minute pulverization. Loudon recommends trenching for it. But a good preparation for it is a potato crop, heavily dressed with long manure, the ground plowed very deep, and the manure buried at the bottom of the furrow, and the crop kept perfectly free from weeds.

The season most proper for sowing in the Northern and Eastern States, is about the 1st to the 15th of May, when the ground has become sufficiently warmed to promote quick vegetation.

The manner of sowing lucerne is either broadcast or in drills, and either with or without an ac-

companying crop. Broadcast, with a very thin cast of winter rye, is most generally preferred in the United States; though drills, by enabling the cultivator to keep out grasses and weeds, promise the greatest permanency to the crop.

The quantity of seed when the broadcast method is adopted, is usually in the United States, 16 pounds; when drilled, 8 to 12 pounds suffice.—The ground should be perfectly pulverized, the seed put in with a fine harrow, and the operation of sowing finished with the roller.

The after culture of lucerne, sown broadcast, consists in harrowing, in the spring, to destroy grass and weeds; rolling, after harrowing, to smooth the soil for the scythe; and such occasional top-dressings, with gypsum, ashes, or rotted manure, as the plants may require, or the convenience of the farm best afford. The harrowing may commence the second year, and the weeds collected should always be carefully removed. In succeeding years, two harrowings may be applied, one in the spring and the other in the latter part of the summer. If in drills, the crop must be kept clean by the hoe, cultivator, &c.

Lucerne frequently attains a sufficient growth for the scythe, from the 10th to the 20th of May; and in soils that are favorable to its growth, it will be in a state of readiness for cutting a second time, in twenty or twenty-five days, being capable of undergoing the same operation at nearly similar intervals of time, during the whole of the summer season. In the United States, in a good soil, it may be cut for soiling, four, and sometimes five times in the season.

To save seed, the lucerne may be treated precisely as red clover, i. e. obtained from the second cutting, or even the third, the crop being left to ripen its seed. It is easily threshed, the grains being contained in small pods, which readily separate under the flail, threshing machine, or clover-mill."

From the New American Gardener.

Inoculation, or Budding.

"The object in budding is the same as in grafting, and depends on the same principle; all the difference between a bud and a scion being that a bud is a shoot or scion in embryo.

"*Advantages of budding.*—Budded trees are generally two years later in producing their fruit than grafted ones; but the advantage of budding is that, where a tree is rare, a new plant can be got from every eye; whereas by grafting it can only be got from every three or four eyes. There are also trees, which propagate much more readily by budding than grafting; and others, as most of the stone fruits, are apt to throw out gum when grafted. When grafting has been omitted, or has failed, in spring, budding comes in as an auxiliary in summer.

"*Season of budding.*—The operation of common budding is performed any time from the beginning of July to the middle of August; the criterion being the formation of buds in the axillæ of the leaf of the present year. The buds are known to be ready by the shield or portion of bark, to which they are attached, easily parting with the wood. The buds preferred are generally those on the middle of a young shoot, as being neither so apt to run to wood as those at the extremity, nor so apt to lie dormant as those at the lower end. In some cases, however, the buds from the middle and extremity of the shoots are to be rejected, and those taken which are at the base of the annual shoots, as Knight (*Hort. Trans.* vol. iii. p. 135) found in the case of the walnut tree. Scallop budding may be performed in the spring, or at any season.

"*Stocks for budding* may, in general, be much smaller than for grafting, as the operation may be performed on the same year's shoot. But it may also be performed on shoots or stems of several year's growth, and in such, by inserting a number of buds, a complete tree may be formed at once. Scallop budding may be performed on trees of considerable age.

"*Choice of buds.*—For grafting the shoots containing the buds, a cloudy day, or an early or late hour, should be chosen, on this principle, that the leaves, being at these periods in a less active state of perspiration, suffer least from being separated from their parent plant. They are preserved fresh, and may be sent a great distance by inserting their ends in water or moist moss; though in general they should be used as soon after gathering as possible; indeed, as in grafting and inarching, the whole operation ought to be performed with the greatest celerity.

"*Kinds of budding.*—Professor Thouin enumerates twenty-three species and varieties of budding; but we shall here describe only four, of which but one variety is in general use in Britain.

"*Shield-budding*, or T *budding*, is thus performed:—Fix on a smooth part on the side of the stock, rather from than towards the sun, and of a height depending, as in grafting, whether dwarf, whole or half standard-trees are desired; then, with the budding-knife, make a horizontal cut across the rind, quite through to the firm wood; from the middle of this traverse cut, make a slit downward, perpendicularly, an inch or more long, going also quite through to the wood. This done, proceed with all expedition to take off a bud; holding the cutting or scion in one hand, with the thickest end outward, and with knife in the other hand, enter it about half an inch or more below the bud, cutting near half way into the wood of the shoot, continuing it with one clean slanting cut, about half an inch or more above the bud, so deep as to take off part of the wood along with it, the whole about an inch and a half long; then, directly, with the thumb and finger, or point of the knife,

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slip off the woody part remaining to the bud; which done, observe whether the eye or germ of the bud remains perfect; if not, and a little hole appears in that part, it is improper, or, as gardeners express it, the bud has lost its root, and another must be prepared. This done, placing the back part of the bud or shield between your lips, expeditiously, with the flat haft of the knife, separate the bark of the stock on each side of the perpendicular cut, clear to the wood, for the admission of the bud, which directly slip down, close between the wood and bark to the bottom of the slit. The next operation is to cut off the top part of the shield, and protrude granulated matter between it and the wood, so as to effect a living union. The parts are now to be immediately bound around with a ligament of fresh bass, previously soaked in water to render it pliable and tough, beginning a little below the bottom of the perpendicular slit, proceeding upward, closely round every part, except just over the eye of the bud, and continue it a little above the horizontal cut, not loo tight, but just sufficient to keep the whole tight, and exclude the air, sun, and wet.

"*Scallop-budding* consists in pairing a thin, tongue-shaped section of bark from the side of the stock; and in taking a similar section from the shoot of buds, in neither case removing the wood. The section or shield containing the bud is then laid on the corresponding scollop in the stock; its upper edge exactly fitted, as in shield-budding, and at least one of its edges, as in whip-grafting. After this, it is tied in the usual way. The advantages of this mode are, that it can be performed when the wood and bark do not separate freely; on trees having very stiff, thick, suberose (cork-like) barks, and at any season of the year. Its disadvantages are, that it requires longer time to perform the operation, and is less certain of success. The French gardeners often bud their roses in this manner in spring; and if they fail, they have a second chance in July, by using the common mode.

"*Budding with double ligatures* is a mode invented by Knight, and described by him (*Hort. Trans.* vol. i. p. 194) as "a new and expeditious mode of budding." The operations are performed in the manner first above described; but, instead of one ligature, two are applied, one above the bud inserted on the transverse section through the bark; the other, which had no further office than that of securing the bud, was applied below in the usual way. As soon as the buds had attached themselves, the lower ligature was taken off, but the others were suffered to remain. 'The passage of the sap upwards was, in consequence, much obstructed, and the inserted buds began to vegetate strongly in July, (being inserted in June;) and when these had afforded shoots about four inches long, the remaining ligatures were taken off to permit the excess of sap to pass on, and the young shoots were nailed to the wall. Being there properly exposed to the light, their young wood ripened well, and afforded blossoms in the succeeding spring; and these would,' he adds, 'no doubt have afforded fruit; but that, leaving my residence, I removed my trees,' &c.

"*Future treatment.*—In a fortnight, at furthest, after budding, such as have adhered may be known by their fresh appearance at the eye; and in three weeks, all those which have succeeded will be firmly united with the stock, and, the parts being somewhat swelled in most species, the bandage must be loosened, and, a week or two afterwards, finally removed.—The shield and bud now swell in common with the other parts of the stock; and nothing more requires to be done till spring, when just before the rising of the sap, they are to be headed down close to the bud, by an oblique cut, terminating about an eighth or a quarter of an inch above the shield. In some cases, however, as in grafting, a few inches of the stalk is left for the first season, and the young shoot tied to it for protection from the winds."

Mr. Abner Landrum mentions a mode of treating the stock, and recently inserted bud, somewhat different from that of Mr. Knight, as detailed above. Instead of Mr. Knight's method of using a strong ligature above the inserted bud, he adopts the following:—As soon as it can be ascertained that the bud will live, which, he says, may be in about a week, if the stock be small, let it be instantly headed down, just above the bud to be nourished. If the stock be large, amputate the principal branches; and the consequence will be, an immediate bursting of all the latent buds, together with the inoculated one. As the inoculated branches multiply, diminish the original one till nothing remains but the new tree.

Mr. Buel, of Albany, in a note to *A Treatise on Gardening*, written by Mr. Armstrong, says, "The modern, and, from experience, I do not hesitate to call it the best, method, is, to insert the bud *without separating the wood from it.* I have budded, the two last years, in June. If thus inserted early, and the stocks headed down when ligatures are removed, the buds often make half a year's growth the same season, and are not so apt to suffer from the severity of the winter, as those which remain dormant."

Gooseberry Caterpillar.—To prevent the attack of this pestiferous insect, when the plants are beginning to open their leaf buds, dust the whole of them over with dry soot. This method has never been known to fail.

Gleanings from the Agricultural Journals.

Sub-soil ploughing.—The Boston Cultivator enumerates the following as some of the advantages which have been found to attend sub-soil ploughing :

On wet lands the water will run down, and leave the surface more dry and friable; and on dry sandy soil it keeps the earth loose to so much greater depth, that the moisture is attracted from below, and supplies in a measure a want of rain in time of drouth.

It affords a much larger pasture for the roots of plants, which will run far below our usual depth of ploughing, if the soil be properly prepared.

It mixes the surface and sub-soils together, and this is an advantage, as they are generally of different kinds. Or if the soils be alike originally, the surface soil becomes exhausted of some inorganic substances by repeated cropping.

From these and other advantages, crops by the use of these ploughs have been increased 33 per cent, other treatment being the same.

Vermin on Fowls.—Place a box of dry ashes, or even dry earth where hens have constant access to it, and, our word for it, they will never be troubled with vermin ; provided, nevertheless, they must be tolerably well fed. —*Boston Cult.*

Raising Cucumbers.—The following directions are given for propagating several crops of cucumbers in succession. As soon as there appear several flower buds on a plant, bend the second or third branch or joint below the blossom, fasten it firmly in the ground, and cut off the capillary point of the plant. The vegetable speedily takes root when you separate it from the parent stalk. Proceed thus with the most vigorous plants, and as each root has only to support a few fruits with nourishment, you both save labor, and procure a constant succession of cucumbers, for a number of months, from one sort, and which are not as likely to degenerate as if they were raised from a variety of seed.—*Ib.*

Scours in Sheep.—This malady is one of the worst complaints that attack the flock ; as soon as discovered, the diseased animals should be removed from the flock, and kept fasting at least twenty-four hours without any food. Then commence by feeding them in small quantities, ripe hay ; coarse timothy is as good as any ; keep them up on ripe hay until you are satisfied the disease has abated. This is the most simple and surest method I ever tried.

Fresh feed, grass or hay, may cause this complaint, and when thoroughly commenced among the flock, it may spread by contagion ; therefore a shift of place and feed is obviously necessary.

If the hay be brined once or twice each week through the foddering season, say, dissolve one pint of salt in three gallons of water, for a flock of fifty, it will prevent the scours, and is one of the best methods of winter management, if fed in mild weather, that can be recommended for sheep.

S. W. Jewett.

Weybridge, Vt. 1845.

Alb. Cult.

The Orchard.—A correspondent of the Albany Cultivator strongly recommends making the orchard a hog-pasture, (after the trees are well grown,) in order that the caterpillars and borers, ensconced within the fruit that falls to the ground prematurely, may be destroyed by the hogs. It is said to have been found to be a complete remedy against the depredations of these insects.

The same correspondent recommends the rigid pruning of the peach tree.—*Ib.*

Another Wheat Insect.—In Buck's county, Pa. an insect has committed considerable depredations upon the wheat for the two years past. It is described as a small green worm about an inch in length ; its head is brownish green, with two brown spots upon it. It ascends the stalk of wheat soon after it has put out in head, cuts off the head, and feeds upon the top of the standing part. Some think it is the army worm.—*Ib.*

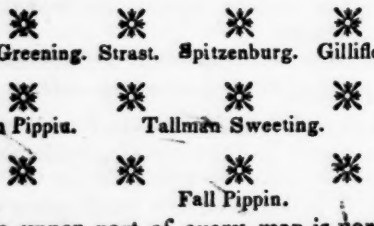
Prevention of the bee-moth.—Col. Nathan Beckwith, an old and experienced agriculturist of this town, informs me that the bee-moth may be effectually destroyed by placing, during their active season, near the hives, a few basins of honey and water (made weak,) after night-fall, and removing early in the morning. They are attracted to it and drowned.—*Ib.*

Cisterns.—Those who design putting down a new cistern, (and no house should be without one,) will find it much to their advantage to use water cement. Take a dry time in the summer, and dig a hole with sloping sides, sufficiently large and deep to contain the desired quantity of water, below the frost. Then mix the cement with equal parts of washed sand and spread it upon the ground two inches thick, carefully exclude the water for ten days, when it may be covered in the usual way, and is ready for the rains. Remember about the frost, and it will last forever.—*Ib.*

Farm Accounts.—We make the following extract from the excellent Address of J. W. Proctor, Esq. "In the agricultural, as in the trading community, property will not adhere that is not cemented by labor. The

young man, therefore, who sets out to be a farmer, must look about him and see how farming can be supported, what kind of crops there are that will pay for themselves and yield something. He must so manage as to make both ends meet. I cannot too strongly urge upon him the necessity of keeping accurate minutes of what he does, and of making exact estimates of the result of his labors and experiments. Nothing is more detrimental to good husbandry than uncertain conjectures. Though the result of our operations may not correspond with our wishes or expectations, we should not close our eyes upon the facts. Truth, exact truth, will ever support itself, and him who cherishes it."—*Ib.*

Marking Fruit Trees.—On a leaf of his farm-book, let the farmer put down a *map* of his orchard thus, every dot standing for an apple tree.



The upper part of every map is north.—Then by counting rows, and the number of the trees in the row, the tree represented by each dot can be readily identified, and the name of the fruit should be put down under each as above."—*Ib.*

Rye and Buckwheat.—A correspondent of the Prairie Farmer recommends sowing one bushel of rye with buckwheat about the 20th of June. When the buckwheat is harvested, the rye will be up six or eight inches. Turn in sheep or cattle (a short time each day at first,) in the fall, and after the ground is settled in the spring—and, if you wish to raise a crop of rye, turn off in time to let it grow up and ripen at about the usual season. He says it may be sown on raw Prairie lands, broken up the last of May or first of June.

Getting out stumps.—We have seen the following very simple plan of stump clearing, adopted with good success:—Take a strong, stiff, hard wood stick of timber, say fifteen or twenty feet long, and six inches in diameter; cut around the stump, and take off some of the roots; then place the timber upright against the stump, and chain them together strong; from the upper end, which is now in the air, let the chains pass to the axletree of a pair of cart wheels, to the tongue of which a pair of strong oxen are attached; when all is ready, start the oxen along, and the stump "keels over" as easily as you capsize a cabbage in a garden.—*Maine Farmer.*

Cut Worms.—"To the remark that 'cut worms may be destroyed by continued tillage, and a naked and open soil,' I beg to say, the cut worm would not be found in corn, were it not planted in sward or sod land. They are the progeny of a species of beetle, or other insect, which could never propagate its kind without the aid of dung, which is found in grass-fields, that have been fed by horses or cattle, and in this they enclose their egg, or eggs, and sink them a given distance below the surface; hence, an autumnal or winter ploughing of such land destroys them, by exposure to the rains and frosts of that inclement season; a doctrine which at least has met with the concurrence of every practical man among us."—*Bost. Cult.*

Pork for 1845.—It seems probable, from present prospects, that pork will command at least remunerating prices the coming fall, and those farmers who had the foresight to see this, and have wisely provided themselves with a sufficient stock of a good breed of hogs, will be likely to reap their reward.—*Albany Cultivator.*

Scratches in Horses.—The sprinkling of plaster of Paris on stable floors, is not only an excellent plan for arresting the fertilizing gas of ammonia for manure, but it prevents horses having the scratches, or sore heels.—*Ib.*

Soap Suds.—Apply them to melons, squashes, and cucumbers, or to any plants infested with the plant-louse.

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